

herein would use to perform a fluorescence measurement. Note specifically the teachings of the incorporated references.

Claims 15-17, 19-24 and 26-34 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Alfano et al ('872) in view of Lewis et al and Ito or Nagasaki et al.

With respect to the cited combination of references, although Ito and Nagasaki disclose distally mounted imaging devices, there is a conspicuous absence of any suggestion that these devices be used for fluorescence or Raman measurements. Alfano and Lewis failed to disclose or suggest that such measurements could be performed with a distally mounted detector. Note specifically the description of filters on page 7, lines 19-32, that have the characteristics necessary to perform the required filtering operations at the distal end of the endoscope. Although Lewis references tunable filters for microscopy, there is no teaching that such filters could be distally mounted on an endoscope.

CONCLUSION

In view of the amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone call would expedite the prosecution of this case, the Examiner is invited to call the undersigned at (508) 879-5700.

Respectfully submitted,

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MARKED UP VERSION OF AMENDMENTSClaim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

15. (Fourth Amendment) A Raman endoscope comprising:
- an endoscope having an optical fiber extending from a proximal end to a distal end of the endoscope;
 - an optical filter at the distal end of the endoscope;
 - a focal plane array sensor at the distal end of the endoscope that detects filtered Raman scattered radiation directed onto the distal end of the endoscope and through the optical filter;
 - a laser optically connected to the optical fiber at the proximal end of the endoscope to irradiate an object to be imaged; and
 - a computer having a memory device that is connected to the sensor, the memory device storing an electronic representation of the detected radiation.
22. (Twice Amended) A Raman endoscope comprising:
- an endoscope having an optical fiber coupler extending from a proximal end to a distal end;
 - a focal plane array sensor at the distal end of the endoscope that detects Raman scattered radiation directed onto the distal end of the endoscope;
 - a filter system at the distal end of the endoscope that filters light directed onto the focal plane array sensor;
 - a laser optically connected to the optical fiber coupler at the proximal end of the endoscope to irradiate an object to be imaged; [and]
 - a broadband light source optically connected to the optical fiber coupler; and

a computer having an electronic memory connected to the sensor such that the memory stores an electronic representation of the detected radiation.

23. (Twice Amended) The Raman endoscope of Claim 22 further comprising an additional optical fiber coupler extending within the endoscope to direct light from [a] the broadband light source onto the object to be imaged.
24. (Twice Amended) The Raman endoscope of Claim 23 further comprising a detector coupled to an optical fiber device in the endoscope to record a visible image of the object.
29. (Thrice Amended) A method of endoscopic imaging comprising:
- providing a sensor array on a distal end of an endoscope, a filter on the distal end of the endoscope the endoscope having a fiber optic cable extending from a proximal end of the endoscope to the distal end, the proximal end of the fiber optic cable being optically coupled to a radiation source;
 - positioning the distal end of the endoscope adjacent to tissue to be examined;
 - irradiating a region of interest on the tissue with radiation from the radiation source that is delivered through the fiber optic cable;
 - sensing endogenous fluorescence or Raman scattered light returning to the distal end of the endoscope with the filtered sensor array in response to the irradiation of the region of interest with the radiation, the returning light being directed onto the sensor array at the distal end of the endoscope with a lens;
 - generating an electronic representation of the region of interest with the sensor array; and
 - storing the representation in a computer electronic memory.